



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,227	09/29/2003	Hiromichi Watanabe	51274/DBP/A400	9869

23363 7590 07/14/2006

CHRISTIE, PARKER & HALE, LLP
PO BOX 7068
PASADENA, CA 91109-7068

EXAMINER

HARRIS, ANTON B

ART UNIT	PAPER NUMBER
----------	--------------

2831

DATE MAILED: 07/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/675,227

Applicant(s)

WATANABE ET AL

Examiner

Anton B. Harris

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 10/675,227.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 5-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Key (4,183,610 cited by Applicant).

Regarding claim 1, Key (col. 3. line 25- col.5 line 63) discloses a press-fit terminal comprising:

a pressure retaining part (col. 3, lines 37-39); and

an introducing part 12 provided in the press-fit section having an aperture (figure 1) extending in the axial direction of the terminal 18, wherein

the pressure retaining part (col. 3, lines 37-39) generates an elastic force which becomes a holding force when the press fit section (col. 3, lines 37-39) is press-fitted into the through-hole 14, 15, and when the press fit section (col. 3, lines 37-39) is press-fitted into the through-hole 14, 15, the introducing part 12 generates an elastic force, the intensity of which is lower than that of the elastic force generated by the pressure retaining part (col. 3, lines 37-39).

Regarding claim 2, Key (col. 3. line 25- col.5 line 63) discloses an electronic equipment comprising:

Art Unit: 2831

a wiring board 16 having a through hole 14, 15; a press-fit terminal press-fitted into and held by the through-hole 14, 15, wherein the press-fit terminal 18 includes a press-fit section having a pressure retaining part (col. 3, lines 37-39) and an introducing part 12, which are formed by an aperture extending in the axial direction of the terminal, the pressure retaining part (col. 3, lines 37-39) generates an elastic force which becomes a holding force when the press-fit section 18 is press-fitted into the through-hole 14, 15, and when the press fit section (col. 3, lines 37-39) is press-fitted into the through-hole 14, 15, the introducing part 12 generates an elastic force, the intensity of which is lower than that of the elastic force generated by the pressure retaining part (col. 3, lines 37-39).

Regarding claim 3, Key (col. 3. line 25- col.5 line 63) discloses that said introducing part 12 is formed so that a diameter of the introducing part 12 is gradually reduced when it comes to an end portion (figure 1).

Regarding claim 5, Key (col. 3. line 25- col.5 line 63) discloses that a cross-sectional area of said introducing part 12 is smaller than that of said pressure retaining (col. 3, lines 37-39) part.

Regarding claim 6, Key (col. 3. line 25- col.5 line 63) discloses that when an aperture (figure 1) of said introducing part 12 is formed being extended in the axial direction toward an end portion, the cross-sectional area of the introducing part is adjusted.

Regarding claim 7, Key (col. 3. line 25- col.5 line 63) discloses that a region of said aperture (figure 1) corresponding to the pressure retaining part (col. 3, lines 37-39) is formed small, and a region of the aperture (figure 1) corresponding to said introducing part 12 is formed large.

Art Unit: 2831

Regarding claim 8, Key (col. 3. line 25- col.5 line 63) discloses that the region of said aperture (figure 1) corresponding to the is formed small so that a pressure retaining part (col. 3, lines 37-39) reduction in the elastic force of the pressure retaining part (col. 3, lines 37-39), which is caused when the cross-sectional area of said introducing part 12 is decreased, can be made up.

Regarding claim 9, Key (col. 3. line 25- col.5 line 63) discloses that said wiring board 16 is composed of a laminated board.

Regarding claim 10, Key (col. 3. line 25- col.5 line 63) discloses that said wiring board 16 is composed of a laminated board on which a plurality of glass fiber sheets are multiply laminated, and printed wiring is provided on the surface.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

Art Unit: 2831

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Key in view of Endo (5,569,390).

Regarding claim 11, Key (col. 3. line 25- col.5 line 63) discloses a press-fit joining wiring board 16 having a through-hole 14, 15 into which a press-fit terminal 18 is press-fitted, but lacks a plurality of sheets multiply laminated by resin wherein an elastic material is contained in the resin.

Endo (col. 8, lines 18-50) teaches a plurality of sheets 16 multiply laminated by resin (col. 8, line 47) wherein an elastic material is contained in the resin (col. 8, line 47).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Key by providing a plurality of sheets multiply laminated by resin wherein an elastic material is contained in the resin in order to provide insulation between layers of the wiring board in view of the teachings of Endo.

Furthermore, the limitation of “into which a press-fit terminal is press-fitted so that it can be held” in claim 11 has been considered, but does not result in a structural difference. It has been held that a recitation that an element “can be” performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138.

Also, the limitations of “for combining the sheets” in claim 11 has been considered, but does not result in a structural difference. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the

Art Unit: 2831

claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Regarding claim 12, Key (col. 3, line 25- col.5 line 63) discloses an electronic equipment comprising a wiring board 16 having a through-hole 14, 15 into which a press-fit terminal 18 is press-fitted, but lacks a plurality of sheets multiply laminated by resin wherein an elastic material is contained in the resin.

Endo (col. 8, lines 18-50) teaches a plurality of sheets 16 multiply laminated by resin (col. 8, line 47) wherein an elastic material is contained in the resin (col. 8, line 47).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Key by providing a plurality of sheets multiply laminated by resin wherein an elastic material is contained in the resin in order to provide insulation between layers of the wiring board in view of the teachings of Endo.

Furthermore, the limitation of “into which a press-fit terminal is press-fitted so that it can be held” in claim 12 has been considered, but does not result in a structural difference. It has been held that a recitation that an element “can be” performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138.

Also, the limitations of “for combining the sheets” in claim 12 has been considered, but does not result in a structural difference. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Art Unit: 2831

Regarding claim 13, Key (col. 3. line 25- col.5 line 63) discloses that said elastic material is made of elastic particulates dispersed in the resin of the board 16.

Regarding claim 14, Key (col. 3. line 25- col.5 line 63) discloses that said elastic particulates are made of one of acrylic rubber, silicon rubber and nitrile butadiene rubber or the elastic particulates are made of a combination in which a plurality of the rubber materials are combined with each other (col. 5. lines 32-63).

Regarding claim 15, Key (col. 3. line 25- col.5 line 63) discloses that said elastic material is filled in a surface layer portion of the board 16.

Regarding claim 16, Key (col. 3. line 25- col.5 line 63) discloses that an inner circumferential face of said through-hole 14, 15 is made of metal, the hardness of which is higher than that of copper.

Response to Arguments

6. Applicant's arguments filed 27 February 2006 have been fully considered but they are not persuasive.

7. Applicant's arguments regarding claims 1 and its depending claims 3-10 and 2 do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections. Specifically, Applicant does not describe how the structure of Key differs from a pressure retaining part and an introducing part as claimed.

Art Unit: 2831

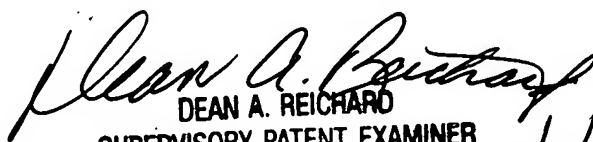
8. Applicant's arguments with respect to claims 11-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anton B Harris whose telephone number is (571) 272-1976. The examiner can normally be reached on weekdays from 8:30am to 5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Dean Reichard, can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.


DEAN A. REICHARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800 1/7/06